EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1059	((345/420).ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:11
L2	903	L1 and @ad <= "20030519"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:16
L3	1	L2 and extracted adj5 build$4 and boundar$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:27
L6	24235	(model$4 same architecture)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:15
L7	32	6 and (photo$4 same aerial)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:16
L9	1	7 and @prad <= "20030519"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 13:16
L10	2	("5475504").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/10 13:28

EAST Search History

L11	2	("5475507").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/10 13:28
S1	964	((345/420).ccls.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/10/10 14:23
S2	868	S1 and @ad <= "20030519"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/10/10 14:25
S3	1	S2 and extracted adj5 build$4 and boundar$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/10/10 14:26

21 Image-based reconstruction of spatial appearance and geometric detail

Hendrik P. A. Lensch, Jan Kautz, Michael Goesele, Wolfgang Heidrich, Hans-Peter Seidel

April 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 2

Publisher: ACM Press

Full text available: pdf(302.22 KB) Additional Information: full citation, abstract, references, citings, index terms

Real-world objects are usually composed of a number of different materials that often show subtle changes even within a single material. Photorealistic rendering of such objects requires accurate measurements of the reflection properties of each material, as well as the spatially varying effects. We present an image-based measuring method that robustly detects the different materials of real objects and fits an average bidirectional reflectance distribution function (BRDF) to each of them. In or ...

Keywords: BRDF measurement, normal map acquisition, photometric stereo, shape from shading, spatially varying BRDFs

22 Lightcuts: a scalable approach to illumination

Bruce Walter, Sebastian Fernandez, Adam Arbree, Kavita Bala, Michael Donikian, Donald P. Greenberg

July 2005 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH 2005 Papers SIGGRAPH '05**, Volume 24 Issue 3

Publisher: ACM Press

Full text available: pdf(683.53 KB) mov(26:17 MIN) Additional Information: full citation, abstract, references, citings, index terms

Lightcuts is a scalable framework for computing realistic illumination. It handles arbitrary geometry, non-diffuse materials, and illumination from a wide variety of sources including point lights, area lights, HDR environment maps, sun/sky models, and indirect illumination. At its core is a new algorithm for accurately approximating illumination from many point lights with a strongly *sublinear* cost. We show how a group of lights can be cheaply approximated while bounding the maximum appr ...

Keywords: many lights, raytracing, shadowing

23 Face recognition: A literature survey

W. Zhao, R. Chellappa, P. J. Phillips, A. Rosenfeld

December 2003 **ACM Computing Surveys (CSUR)**, Volume 35 Issue 4

Publisher: ACM Press

Full text available: pdf(4.28 MB) Additional Information: full citation, abstract, references, citings, index terms

As one of the most successful applications of image analysis and understanding, face recognition has recently received significant attention, especially during the past several

years. At least two reasons account for this trend: the first is the wide range of commercial and law enforcement applications, and the second is the availability of feasible technologies after 30 years of research. Even though current machine recognition systems have reached a certain level of maturity, their success is ...

Keywords: Face recognition, person identification

24 Real-time shading

Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(7.39 MB) Additional Information: full citation, abstract

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

25 Image-based 3D photography using opacity hulls

Wojciech Matusik, Hanspeter Pfister, Addy Ngan, Paul Beardsley, Remo Ziegler, Leonard McMillan

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH '02**, Volume 21 Issue 3

Publisher: ACM Press

Full text available: pdf(27.14 MB) Additional Information: full citation, abstract, references, citings, index terms

We have built a system for acquiring and displaying high quality graphical models of objects that are impossible to scan with traditional scanners. Our system can acquire highly specular and fuzzy materials, such as fur and feathers. The hardware set-up consists of a turntable, two plasma displays, an array of cameras, and a rotating array of directional lights. We use multi-background matting techniques to acquire alpha mattes of the object from multiple viewpoints. The alpha mattes are used to ...

Keywords: 3D photography, image-based rendering

26 Three-dimensional medical imaging: algorithms and computer systems

M. R. Stytz, G. Frieder, O. Frieder

December 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue 4

Publisher: ACM Press

Full text available: pdf(7.38 MB) Additional Information: full citation, references, citings, index terms, review

Keywords: Computer graphics, medical imaging, surface rendering, three-dimensional imaging, volume rendering

27 Continuous capture of skin deformation

Peter Sand, Leonard McMillan, Jovan Popović

July 2003 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH 2003 Papers SIGGRAPH '03**, Volume 22 Issue 3

Publisher: ACM Press

Full text available: pdf(6.55 MB) mov(19:41 MIN) Additional Information: full citation, abstract, references, citings, index terms

We describe a method for the acquisition of deformable human geometry from

silhouettes. Our technique uses a commercial tracking system to determine the motion of the skeleton, then estimates geometry for each bone using constraints provided by the silhouettes from one or more cameras. These silhouettes do not give a complete characterization of the geometry for a particular point in time, but when the subject moves, many observations of the same local geometries allow the construction of a comp ...

Keywords: human animation, motion capture, skin modeling

28 Real-time volume graphics

Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(7.63 MB) Additional Information: full citation, abstract

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

29 Computational photography: Non-photorealistic camera: depth edge detection and stylized rendering using multi-flash imaging

Ramesh Raskar, Kar-Han Tan, Rogerio Feris, Jingyi Yu, Matthew Turk
July 2005 **ACM SIGGRAPH 2005 Courses SIGGRAPH '05**
Publisher: ACM Press
Full text available: pdf(289.20 KB) Additional Information: full citation, abstract, references

We present a non-photorealistic rendering approach to capture and convey shape features of real-world scenes. We use a camera with multiple flashes that are strategically positioned to cast shadows along depth discontinuities in the scene. The projective-geometric relationship of the camera-flash setup is then exploited to detect depth discontinuities and distinguish them from intensity edges due to material discontinuities.We introduce depiction methods that utilize the detected edge features t ...

Keywords: depth edges, image enhancement, non-photorealistic rendering

30 Computational photography: Non-photorealistic camera: depth edge detection and stylized rendering using multi-flash imaging

Ramesh Raskar, Rogerio Feris, Jingyi Yu, Matthew Turk
July 2006 **ACM SIGGRAPH 2006 Courses SIGGRAPH '06**
Publisher: ACM Press
Full text available: pdf(288.75 KB) Additional Information: full citation, abstract, references

We present a non-photorealistic rendering approach to capture and convey shape features of real-world scenes. We use a camera with multiple flashes that are strategically positioned to cast shadows along depth discontinuities in the scene. The projective-geometric relationship of the camera-flash setup is then exploited to detect depth discontinuities and distinguish them from intensity edges due to material discontinuities.We introduce depiction methods that utilize the detected edge features t ...

31 Shape-based retrieval and analysis of 3D models

Thomas Funkhouser, Michael Kazhdan
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(12.56 MB) Additional Information: full citation, abstract

Large repositories of 3D data are rapidly becoming available in several fields, including mechanical CAD, molecular biology, and computer graphics. As the number of 3D models grows, there is an increasing need for computer algorithms to help people find the interesting ones and discover relationships between them. Unfortunately, traditional text-based search techniques are not always effective for 3D models, especially when queries are geometric in nature (e.g., find me objects that fit into thi ...

32 Non-photorealistic camera: depth edge detection and stylized rendering using multi-flash imaging

Ramesh Raskar, Kar-Han Tan, Rogerio Feris, Jingyi Yu, Matthew Turk
August 2004 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH 2004 Papers SIGGRAPH '04**, Volume 23 Issue 3
Publisher: ACM Press
Full text available: pdf(756.83 KB) mov(25:40 MIN) Additional Information: full citation, abstract, references, citings

We present a non-photorealistic rendering approach to capture and convey shape features of real-world scenes. We use a camera with multiple flashes that are strategically positioned to cast shadows along depth discontinuities in the scene. The projective-geometric relationship of the camera-flash setup is then exploited to detect depth discontinuities and distinguish them from intensity edges due to material discontinuities.We introduce depiction methods that utilize the detected edge features t ...

Keywords: depth edges, image enhancement, non-photorealistic rendering

33 High dynamic range imaging

Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(20.22 MB) Additional Information: full citation, abstract

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

34 Simplifying complex environments using incremental textured depth meshes

Andrew Wilson, Dinesh Manocha
July 2003 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH 2003 Papers SIGGRAPH '03**, Volume 22 Issue 3
Publisher: ACM Press
Full text available: pdf(3.84 MB) mov(24:55 MIN) Additional Information: full citation, abstract, references, citings, index terms

We present an incremental algorithm to compute image-based simplifications of a large environment. We use an optimization-based approach to generate samples based on scene visibility, and from each viewpoint create textured depth meshes (TDMs) using sampled range panoramas of the environment. The optimization function minimizes artifacts such as skins and cracks in the reconstruction. We also present an encoding scheme for multiple TDMs that exploits spatial coherence among different viewpoints. ...

Keywords: interactive display, simplification, spatial encoding, textured depth meshes, walkthrough

35 Light field microscopy

Marc Levoy, Ren Ng, Andrew Adams, Matthew Footer, Mark Horowitz
July 2006 **ACM Transactions on Graphics (TOG) , ACM SIGGRAPH 2006 Papers SIGGRAPH '06**, Volume 25 Issue 3
Publisher: ACM Press

Full text available: pdf(469.78 KB) Additional Information: full citation, abstract, references, index terms
mov(22:49 MIN)

By inserting a microlens array into the optical train of a conventional microscope, one can capture light fields of biological specimens in a single photograph. Although diffraction places a limit on the product of spatial and angular resolution in these light fields, we can nevertheless produce useful perspective views and focal stacks from them. Since microscopes are inherently orthographic devices, perspective views represent a new way to look at microscopic specimens. The ability to create f ...

Keywords: deconvolution, light fields, microscopy, synthetic aperture, tomography, volume rendering

36 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research CASCON '97**

Publisher: IBM Press

Full text available: pdf(4.21 MB) Additional Information: full citation, abstract, references, index terms

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

37 Computational photography: Computational photography

Ramesh Raskar, Jack Tumblin

July 2005 **ACM SIGGRAPH 2005 Courses SIGGRAPH '05**

Publisher: ACM Press

Full text available: pdf(27.08 MB) Additional Information: full citation

38 Distributed metric calibration of ad hoc camera networks

Dhanya Devarajan, Richard J. Radke, Haeyong Chung

August 2006 **ACM Transactions on Sensor Networks (TOSN)**, Volume 2 Issue 3

Publisher: ACM Press

Full text available: pdf(954.43 KB) Additional Information: full citation, abstract, references, index terms

We discuss how to automatically obtain the metric calibration of an ad hoc network of cameras with no centralized processor. We model the set of uncalibrated cameras as nodes in a communication network, and propose a distributed algorithm in which each camera performs a local, robust bundle adjustment over the camera parameters and scene points of its neighbors in an overlay "vision graph." We analyze the performance of the algorithm on both simulated and real data, and show that the ...

Keywords: Camera calibration, bundle adjustment, distributed algorithms, metric reconstruction, sensor networks, structure from motion

39 How the virtual inspires the real: From images to 3D models

Marc Pollefeys, Luc Van Gool

July 2002 **Communications of the ACM**, Volume 45 Issue 7

Publisher: ACM Press

Full text available: pdf(321.25 KB) Additional Information: full citation, abstract, references, citings, index terms
html(25.03 KB)

How computers can automatically build realistic 3D models from 2D images acquired with a handheld camera.

Medical informatics: a personal view of sowing the seeds

R. S. Ledley

December 1987 **Proceedings of ACM conference on History of medical informatics**

Publisher: ACM Press

Full text available: pdf(1.37 MB) Additional Information: full citation, references, index terms